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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
)
HAWAIIAN ELECTRIC COMPANY, INC.)
)
For Approval of to Commit Funds in Excess)
of \$500,000 for Item Y48500, East Oahu)
Transmission Project)
_____)

DOCKET NO. 03-0417

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DIVISION OF CONSUMER ADVOCACY'S
OPENING BRIEF

AND

CERTIFICATE OF SERVICE

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DIVISION OF CONSUMER ADVOCACY'S WRITTEN BRIEF

I. Procedural Background

On December 18, 2003, Hawaiian Electric Company, Inc. ("HECO") filed its application seeking approval by the Public Utilities Commission of the State of Hawaii ("Commission" or "PUC") requesting Commission approval to commit funds in excess of \$500,000 for Item Y48500, East Oahu Transmission Project ("Application").

On January 6, 2004, Life of the Land ("LOL") filed its Motion to Intervene.

On January 7, 2004, the following individuals/organizations also filed Motions to Intervene:

- Carolyn H. Walther.
- Malama O Manoa.
- Kapahulu Neighbors.
- Ho'olaulima O Palolo.
- Michelle S. Matson.
- Palolo Community Council.
- Carol Fukunaga, Scott K. Saiki, and Ann Kobayashi.

On January 13, 2004, HECO filed a Memorandum in Response to the following Motions to Intervene stating that HECO did not oppose the intervention provided that the individuals/organizations are not permitted to expand the scope or delay the proceeding.

- Life of the Land.
- Malama O Manoa.
- Kapahulu Neighbors.
- Carol Fukunaga, Scott K. Saiki and Ann Kobayashi ("Public Officials").
- Palolo Community Council.

On January 13, 2004, HECO filed a Memorandum in Response to the Motion to Intervene by Darlene Nakayama on behalf of Ho'olaulima O Palolo stating that HECO will not oppose the motion conditioned upon the following:

- Ho'olaulima O Palolo provide information on how the interests differed from those of the Palolo Community Council,
- agrees that the person submitting the motion will be the organization's representative or designates another representative, and
- is not permitted to expand the scope of the proceeding or delay the proceeding and is required to comply with Hawaii Administrative Rules, Title 6, Chapter 61.

On January 29, 2004, the Commission held a hearing on the Motions for Intervention filed by Life of the Land and the Palolo Community Council. The Consumer Advocate appeared before the Commission at that hearing and represented that it did not oppose either party's Motion to Intervene.

On January 20, 2004, pursuant to Commission Order No. 20771, HECO and the Consumer Advocate were ordered to meet informally to formulate the issues,

procedures and schedule in the proceeding to be set forth in a stipulated prehearing order. The stipulated prehearing order was to be submitted for commission approval within 30 days from January 20, 2004.¹ By letter dated February 19, 2004, HECO and the Consumer Advocate requested an extension until March 18, 2004 to file the stipulated prehearing order.

On February 25, 2004, the Consumer Advocate filed its letter requesting the Commission to include all parties to the proceeding for the development of issues and the procedural schedule.

On March 23, 2004, the Commission issued Order No. 20860, granting LOL's and the Public Official's Motions to Intervene.

On March 23, 2004, the Commission issued Order No. 20861, denying Intervenor status but granting Participant status to the following parties:

- Malama O Manoa.
- Kapahulu Neighbors.
- Ho'olaulima O Palolo.
- Palolo Community Council.

Also, on March 23, the Commission issued Order No. 20862, denying Ms. Michelle S. Matson's and Carolyn H. Walthers' Motions to Intervene.

On or around August 10, 2004, a Notice of Public Hearing was published in the Honolulu Star Bulletin for the public hearing set for September 1, 2004, and held at the State Capitol Auditorium.

¹ See Order No. 20771 filed in the instant proceeding.

On August 25, 2004, the Consumer Advocate filed its Information Requests ("IRs") with the Commission.

On October 1, 2004, Public Officials filed their letter withdrawing a prior request for a second public hearing.

On October 6, 2004, HECO filed its responses to IRs submitted by the Consumer Advocate, LOL, and the Public Officials.

On October 7, 2004, HECO filed additional responses to IRs submitted by the Consumer Advocate, LOL, and the Public Officials.

On November 8, 2004, Consumer Advocate filed its Supplemental IRs to HECO.

On December 15, 2004, HECO filed its responses and objections to the Supplemental IRs from the Consumer Advocate, LOL, and Public Officials.

On June 1, 2005, the Commission issued Protective Order No. 21850.

On June 3, 2005, HECO submitted its responses to the Consumer Advocate's IRs; CA-IR-15(c), CA-IR-20 and CA-IR-21.

On June 21, 2005, the Consumer Advocate filed its Direct Testimony and Exhibits; CA-T-1.

On June 23, 2005, the Consumer Advocate filed its protective agreements with the Commission.

On July 12 and 15, 2005, HECO submitted its IRs and corresponding revisions to the Consumer Advocate and LOL.

On July 20, 2005, Commission issued its Order No. 21930 providing the Parties and Participants' amended schedule.

On August 2, 2005, the Consumer Advocate provided its responses to HECO's IRs.

On August 30, 2005, HECO filed its Rebuttal Testimonies and Exhibits.

On September 19, 2005, the Consumer Advocate filed its Rebuttal Information Requests ("RIRs"); CA-RIR-1 to CA-RIR-35.

On October 12, 2005, HECO filed its responses and objections to the Consumer Advocates RIRs.

On October 28, 2005, HECO and the Consumer Advocate filed their Joint Motion for Approval of Stipulation.

On November 4, 2005, the Commission issued its Order No. 22103, setting for the procedural schedule.

On November 4, 2005, the Commission issued its Order No. 22104, granting in part, HECO and the Consumer Advocate's Joint Motion for Approval of Stipulation.

The evidentiary hearing was held on November 7 and 8, 2005.

On December 6 and 7, 2005, the official transcripts of the hearing were filed with the Commission.

On December 9, 2005, the Commission set the deadline for Opening Briefs on December 30, 2005 and Closing Briefs on January 20, 2006.

On December 12, 2005, the Commission granted Kapahulu Neighbors' Request to Withdraw as a Participant.

On December 13, 2005, Henry Curtis, on behalf of LOL, requested an extension for filing Opening Briefs and Closing Briefs.

On December 28, 2005, the Commission granted LOL's request for extension and set deadlines for Opening Briefs for January 19, 2005, and Closing Briefs for February 9, 2006.

On January 19, 2006, the Consumer Advocate requested further extension of time for filing briefs to February 9, 2006 for Opening Briefs and March 2, 2006 for Reply Briefs.

On January 27, 2006, the Commission issued its Order No. 22250, granting the Parties' request for extension of time to file opening and closing briefs.

On February 8, 2006, the Consumer Advocate, with consent from the Parties' requested a second extension of time for filing briefs to February 13, 2006 for Opening Briefs and March 6, 2006 for Closing Briefs.

II. Discussion

A. Introduction

HECO's application in the instant docket seeks approval of a transmission project. The current proposal, however, is more accurately a proposal for a specific 46 kV "subtransmission" system. While the Consumer Advocate does not dispute the need for the instant 46 kV subtransmission project, the Consumer Advocate contends that the cost of the instant project should not incorporate costs and expenses for prior capital projects that were also intended to address the same need for which the instant project is proposed. Although the need for which the various projects were proposed may be the same or very similar in nature, the fact remains that the prior proposals have been abandoned and the costs (which include the Allowance for Funds Used During Construction) of the pursuing such proposals should not be included in the costs for the

current 46 kV project. Furthermore, the Consumer Advocate opposes the inclusion of the costs for unreasonable or unnecessary improvements to the instant 46 kV project.

In brief summary, the purpose of this instant proposed 46 kV subtransmission project is to strengthen the Company's delivery system in order to ensure the reliable transmission of electrical power to customers in East Oahu. Initially, the efforts to improve HECO's existing electrical transmission and distribution system focused on strengthening the 138 kV transmission system through the completion of three projects. HECO was able to complete two of the three projects when the Company received Commission approval to commit funds for the Kewalo 138-25 kV Transformer A & B project (Docket No. 7526) and the Kewalo-Kamoku 138 kV Transmission Line project (Docket No. 7602). The third and final project required the construction of a 138 kV transmission line to connect the Pukele and Kamoku Substations. The line was to be routed through Waahila Ridge, which is State conservation land managed by the Department of Land and Natural Resources ("DLNR"). Thus, in order to proceed with the construction of the 138 kV transmission line and complete the last project, HECO was required to obtain a Conservation District Use Permit ("CDUP") from the DLNR. In 2002, however, the DLNR denied HECO's request for a CDUP. Thus, the plan to construct the 138kV transmission line through Waahila Ridge to connect the Pukele and Kamoku Substations was abandoned.

HECO still believed, however, that there is a need to strengthen the existing transmission system in order to ensure the reliable delivery of power to customers in East Oahu. As a result, after discussing several alternatives to the Kamoku Pukele 138 kV transmission line project, the Company determined that the current proposal (i.e., a

two phase 46kV sub-transmission underground project utilizing existing facilities, the Kamoku 46 kV Underground Alternative –Expanded) would address the identified need.

As discussed below, the Consumer Advocate acknowledges that construction of 46 kV facility improvements is consistent with HECO's planning criteria and with the exception of the objections to HECO's proposed recovery of costs for the prior 138 kV alternative proposal and to the Phase 2 construction and installation of an additional 138/46 kV, 80 MVA transformer at the Archer Substation. The Consumer Advocate recommends approval of commitment of funds for the instant 46 kV system improvements to address HECO's identified constraints. The Consumer Advocate's recommendation, is based upon a determination that the improvements are necessary for proper utilization of the system as a whole, consistent with proper planning. The installation of the 46 kV improvements will enable HECO to provide reliable electric service to consumers at a reasonable cost.

B. Statement of Issues

The Commission's Order No. 20968, filed May 10, 2004, provided the parties with a list of issues to be determined. The issues in the instant case were:

1. Whether HECO's proposed expenditures for Phases 1 and 2 of the East Oahu Transmission Project will provide facilities which are reasonably required to meet HECO's present or future requirements for utility purposes;
2. Whether HECO's selected routing, location, configuration and method of construction for Phases 1 and 2 of the East Oahu Transmission Project ar reasonable;

3. Whether HECO's East Oahu Transmission Project is preferable to HECO's other 138kV and 46kV system alternatives, comparing factors such as, but not limited to the following:

- a) Cost;
- b) Timeliness and Schedule;
- c) Effectiveness;
- d) Construction impacts;
- e) Electromagnetic fields;
- f) Other impacts, if any;
- g) Public sentiment; and
- h) The public welfare in general.

4. Whether HECO's East Oahu Transmission Project is preferable to other feasible non-transmission options; and

5. Pursuant to the requirements of HRS 269-27.6(a), whether all (as proposed by HECO) or part of the 46kV lines that are part of HECO's East Oahu Transmission Project should be placed, constructed, erected or built below the surface of the ground. (Commission's Order No. 20968, Exhibit 1, pages 3-4)

In summary, the Consumer Advocate's review of HECO's overall system has determined that the "need" for this project is reasonable as reliability concerns are immediate and overloading concerns, while deemed to be long term system concerns, are inevitable. (See CA-T-1, Testimony of Michael E. Kiser, P.E., pages 17-58 for specific discussion, also, CA Exhibits Nos. CA 107-112.)

C. Brief Overview of Identified Constraints and Related Needs

The Consumer Advocate reviewed the four transmission constraints, identified by HECO in its application²: the Koolau/Pukele overload, the Downtown overload, the Pukele Substation reliability, and the Downtown Substation reliability. These constraints were initially described by HECO back in 1991. To independently confirm the existence of the constraints on HECO's system, the Consumer Advocate utilized a power flow software program that models the impacts of varying conditions on HECO's system. The PowerWorld Simulator, power flow analysis software, utilized the same mathematical techniques as HECO's power-flow program to formulate solutions to varying scenarios on the Company's transmission system (i.e., 263 situations or cases).³

The PowerWorld Simulator, used by the Consumer Advocate's analyst helped determine the effectiveness of load-shifting or transfer between substations for the benefit of the transmission or distribution system. The importance of identifying and quantifying the effectiveness of various system load flows or system load transfer possibilities is to determine whether HECO's existing facilities and capabilities may be utilized to address or relieve the system constraints or whether additional improvements are reasonable, necessary or critical to provide power during peak or emergency power utilization. The Consumer Advocate attempted to consider "load-transfer" and "load-shifting" as an alternative to the instant project,⁴ HECO, however, does not run load-

² HECO T-2, Testimony of Kerstan J. Wong, page 11, referring to planning studies prepared in 1991 and 1992, East Oahu 138kV Requirements and East Oahu 138kV. See also CA-T-1, page 18, Lines 5-9, Testimony of Michael E. Kiser.

³ Cases provided HECO via the 2003 East Oahu Alternatives Study (December 2003), and the East Oahu Project: Option to the Koolau/Pukele Transmission Line Overload Problem (December 2003).

⁴ CA-T-1, pages 26-61, Testimony of Michael E. Kiser, provides general discussion of potential consequences for various 46kV load transfers via analysis of Power energy flow software specifically addressing 46kV alternatives not provided by HECO due to HECO's "lumped-load" modeling method.

flow studies for particular lines and switches for the entire 46kV system. Instead, the system load is “lumped” together to attempt to consider load shifting alternatives to the impact of the proposed system improvements. The disadvantage to a “lump-load” analysis is that not all of the numerous scenarios could be modeled to determine optimum load shifting from one substation to another.⁵

As a result, the Consumer Advocate was required to analyze the fundamental needs of HECO’s current system, not specific to the instant EOTP proposal or prior 138 kV or 46 kV alternatives considered by HECO. A brief discussion of the identified system constraints and related needs are provided in brief below.

These four constraints or system concerns identified by HECO may be summarized in brief as two distinct concerns involving issues of “overloading” and “reliability” and are specifically set forth as follows:

1. Transmission line overload of the lines feeding the combined Koolau and Pukele service areas (i.e., The Koolau/Pukele Overload Situation);
2. Transmission line overloading for the lines feeding the Downtown area (i.e., The Downtown Overload Situation);
3. Reliability of the Pukele Substation since it was fed by only two 138 kV transmission lines (i.e., The Pukele Substation Reliability Concern); and
4. The need for adequate 138 kV line to transmit power to the proposed new Kewalo and Kamoku Substations (i.e., The Downtown Substation Reliability Concern).⁶

⁵ Hearing Transcript, Volume II, page 262, lines 4-14.

⁶ See CA-T-1, page 11-12

1. Koolau/Pukele Overload Constraint

The first constraint, the Koolau/Pukele overload provides an opportunity to highlight the load shift analysis. HECO asserts that a double contingency or “N minus 2 contingency”, where two Waiau-Koolau 138kV lines are out, will overload the Halawa-Koolau transmission line and violate HECO’s Transmission Planning Criteria and HECO maintains that the Koolau/Pukele overload is projected to occur in 2005 or earlier because peak loads have increased faster than projected.⁷

Based on its independent analysis, the Consumer Advocate determined that an overload may occur. The overload, however, is not expected to occur until 2012. In addition, the Consumer Advocate contends that there is also a potential to shift at least 22 megawatts from Pukele Substation to the Archer Substation based upon the June 2005, unplanned outage of the Waiau-Koolau No. 1 line, where HECO was able to utilize existing 46kV switches to shift 26 megawatts to the Archer Substation. The caveat to the recommended load shifting is that the current system is not configured to automatically switch power from one substation to another and the instant EOTP does not contemplate this as an improvement at this time.

A deferral of potential or imminent overload, however, is not preferred over permanent improvements that may provide immediate relief. Thus, the Consumer Advocate agrees that there is a need to install improvements on the system to be prepared in the event that there is no automatic backup scheme for another 46kV system failure.

2. Downtown Overload Constraint

⁷ HECO Application, page 16-17.

HECO asserts that a violation of their Transmission Planning Criteria is imminent should a double-contingency outage of both the Halawa-School Street and Halawa-Iwilei 138kV transmission lines occur, causing the remaining Makalapa-Airport 138kV line to reach 98% of its line loading rated capacity⁸ thus, establishing the Downtown Overload constraint. Upon review of 46kV connections to the Pukele and Koolau Substations and switching diagrams provided by HECO⁹, while the Consumer Advocate does not deem the Downtown overload to be a concern until 2022, there is agreement that the Downtown Overload constraint is primarily dependent upon the possible retirement of the Honolulu Power Plant. The uncertainties regarding the future of the Honolulu Power Plant is speculative and cannot be analyzed adequately at this time but the constraint is valid and supports the need for the EOTP.

3. Pukele Reliability Constraint

The Consumer Advocate acknowledges the Pukele Reliability constraint because of the age of the Pukele Substation and related factors. HECO states that the Pukele Substation is beyond 20 years old, (built in 1964), is fed by only two 138kV transmission lines following identical geographical routes along rugged Koolau mountain terrain subjected to harsh weather conditions, and the majority of the load taken up by the Pukele Substation is not backed up by other substations.¹⁰ HECO asserts that the Pukele Substation is the most heavily loaded 138kV substation in the system feeding

⁸ CA-T-1, page 39, lines 5-9, Testimony of Michael E. Kiser

⁹ HECO's response to CA-IR-15, part "c"

¹⁰ CA-T-1, pages 41-42, Testimony of Michael E. Kiser

Kahala, Kaimuki, Manoa, Makiki and Waikiki. If the two transmission lines are out, 93% of the customers in the service area will be without power.¹¹

Therefore, while the Consumer Advocate acknowledges that HECO has been able to maintain the 138 kV lines and equipment serving the Pukele Substation, HECO has not taken steps to improve the transmission system reliability by strengthening the 46 kV ties to Pukele from the Kewalo and Kamolu Substations. The instant EOTP project would address this constraint by improving the 46 kV sub-transmission system to backup the two 138 kV transmission lines feeding the Pukele Substation.

4. Downtown Reliability Constraint

HECO represented that the Downtown Reliability constraint is not as critical as the Koolau-Pukele line overload as the Pukele Substation reliability.¹² The Consumer Advocate offers that the Downtown Reliability constraint is more serious than stated by HECO because the 25kV system will be a serious reliability concern as the load inevitably grows. Furthermore, if the Archer Substation or Kewalo Substation loses their feed, there is no potential to back up the 25kV system from other area substations via 46kV sub-transmission circuits or 12kV distribution circuits.¹³

Thus, the Consumer Advocate considers the identified overloading concerns to be prospective and stated reliability concerns to be more immediate. The Consumer Advocate, however, has no dispute that long term improvements are necessary at this

¹¹ HECO Application, page 14

¹² HECO Application, page 21.

¹³ CA-T-1, page 57, lines 6-20.

time to address system constraints identified by HECO and consistent with proper planning and utilization of HECO's system¹⁴.

D. Routing, Location, Configuration and Construction Concerns

The Consumer Advocate reviewed testimony, planning studies and the EOTP Environmental Assessment report. Generally, the Consumer Advocate does not object to the reasonableness of any of the proposed routing, location, configuration and construction methods. The concern that exists, however, include a consideration of current or possible City & County of Honolulu regulations, policies and ordinances that may require paving streets from curb-to-curb rather than just over installed duct lines and horizontal direct drilling versus conventional trenching. While these concerns may not result in significant delay, there will be added costs. ¹⁵

E. Comparison of EOTP With 138 kV and 46 kV Alternatives

The Commission seeks to resolve whether the EOTP is preferable to HECO's other 138 kV and 46 kV system alternatives based upon factors including cost, schedule, effectiveness, construction impacts, electromagnetic field concerns, public sentiment and public welfare in general. A brief summary of the Consumer Advocate's testimony is provided below.

1. Cost

The Consumer Advocate recommends that the costs related to the initial 138 kV project proposal and the additional 138/46 kV transformer at the Archer Substation be removed from the costs projected for the EOTP as proposed.

a. Kamoku-Pukele 138 kV Project

¹⁴ CA-T-1, page 124, lines 14-15

There are two primary reasons for the Consumer Advocate's objection to the inclusion of the costs associated with the 138 kV transmission line project described above in the costs of the instant 46 kV subtransmission line project. First, the Consumer Advocate noted concerns with HECO's overall or comprehensive transmission and sub-transmission/distribution system planning and determined that had the concerns been addressed, HECO would not have pursued the installation of the 138 kV transmission line over Waahila Ridge. Second, the 138 kV transmission line project to connect the Kamoku and Pukele substation has been abandoned, since HECO was not able to obtain the CDUP to install the line over the Waahila Ridge as initially proposed.

HECO's response to CA-IR-36 provides approximately \$12 million for the planning, public scoping and input, routing selection, environmental impact studies and Conservation District Use Permit process for the Kamoku-Pukele 138 kV project proposal. The costs for the instant 46 kV project should not include this \$12 million because the 138 kV Kamoku Pukele project has been abandoned due to HECO's inability to obtain the CDUP to construct the line over Waahila Ridge as proposed. Furthermore, the Consumer Advocate contends that the proper application of HECO's planning criteria along with proper planning for 46 kV sub-transmission system concerns would have confirmed the unreasonableness of pursuing the 138 kV projects in lieu of 46 kV project as proposed in the instant docket.¹⁶

On October 28, 2005, HECO and the Consumer Advocate filed their Joint Motion for Approval of Stipulation which included an agreement to reserved discussion and

¹⁶ CA-T-1, page 92-93, Testimony of Michael E. Kiser

analysis of all issues related to the pre-2003 planning costs. The Commission granted the Motion in part on November 4, 2005, providing that the agreement as stated be enforced and that those pre-2003 planning issues be raised in the next general rate case proceeding.

This docket has evolved over time, ultimately resulting in a proposal or alternative that should have been presented or at least considered earlier in the course of reasonable and proper planning and before expending costs to pursue the Kamoku-Pukele 138kV Underground Alternative (via Waahila Ridge).¹⁷ The 46 kV alternatives were approximately \$50 million less than the 138 kV proposal.

The Consumer Advocate will seek to address HECO's complete system planning and related cost issues in the Integrated Resource Planning ("IRP") docket already pending before this Commission and analyze expenses in the HECO's next rate case. This Commission should consider utilizing the IRP framework to require HECO to provide detailed studies and plans for major distribution, sub-transmission and transmission projects and demonstrate related system utilizations and impacts.¹⁸ These plans may also consider transmission impacts upon supply-side and demand-side resource projects consistent with HECO's transmission planning criteria.¹⁹

b. Additional Archer Transformer Unnecessary

HECO's proposal in Phase 2 of the instant EOTP is to install an additional 138/46kV, 80 MVA transformer to supplement three existing 138/46kV, 83 MVA transformers at the Archer Substation. The Consumer Advocate opposes this

¹⁶ CA-T-1, page 96-98, Testimony of Michael E. Kiser

¹⁷ CA-T-1, page 82, lines 5-16, Testimony of Michael E. Kiser

¹⁸ CA-T-1, page 85, lines 1-5, Testimony of Michael E. Kiser

improvement because this additional transformer is unnecessary to address the needs identified in the instant docket. This additional improvement will cause the Archer and Kamoku substations to be underutilized because while the combined normal load of the Archer and Kamoku substations may exceed the combined normal rating of the existing three transformers, the current combined emergency rating far exceeds the combined normal load. Upon review of the load cases and transformer utilizations, the existing three transformers have a combined normal rating of 249 MVA, and an emergency rating of 330 MVA. The 2007 combined load for Pukele and Archer Substations is 264 MVA (246 MW) and grows to 277 MVA (268 MW) in 2022. Thus, there appears to be no rationale other than seeking a “duplication of facilities” at the Archer Substation for the installation of the additional transformer as proposed by HECO because the combined emergency ratings of the transformers currently in place are sufficient. The additional transformer is unnecessary to address any fundamental need and the EOTP project cost should be reduced by \$1.6 million to remove the costs for equipment proposed to be installed for the proposed 138/46 kV transformer.

Issues that may arise related to necessity or reasonableness of costs for this improvement should be raised by HECO and supported with current data in the next general rate case proceeding following the inservice date of the instant proposed EOTP.

2. Schedule

Although all the 138 kV and 46 kV alternatives would have similar construction schedules, the 46 kV Underground Alternative – Expanded, HECO’s current proposal, appears to suggest a completion schedule falling in between the 138 kV and 46 kV

¹⁹ CA-T-1, page 84, Testimony of Michael E. Kiser

Underground Alternatives because of requisite permitting and infrastructure considerations.²⁰

3. Effectiveness

The Consumer Advocate contends that the EOTP as proposed provides the benefit of being more reliable than the 138 kV alternative.²¹ This is because the construction of 46 kV sub-transmission improvements provides complete backup of the Pukele Substation that could not be accomplished through additional 138 kV transmission lines feeding that substation.²²

4. Construction Impacts

The Consumer Advocate has determined that aside from the need to consider potential permitting or infrastructure construction requirements, the 46 kV alternative is preferable to the 138 kV alternative as it uses existing facilities rather than requiring additional infrastructure for completion.²³

5. Electromagnetic Fields

The Consumer Advocate acknowledges that the electromagnetic field impacts of this project is minimal or similar to everyday levels found routinely throughout Honolulu.²⁴

6. Public Sentiment

The Consumer Advocate noted that the 3Point Consulting report, East Oahu Transmission Project, A Report On Public Input Collected in June and July 2003

²⁰ CA-T-1, page 100-101, referencing HECO Exhibit 101

²¹ See HECO Exhibit 101 and Table 5-1 from the East Oahu Transmission Project Alternatives Study Update (HECO, December 2003)

²² CA-T-1, page 102-103, Testimony of Michael E. Kiser

²³ CA-T-1, page 106-107, Testimony of Michael E. Kiser

(September 2003) reflected strong community opposition to the 138 kV alternative and that the EOTP is not needed. The Consumer Advocate, however, disagrees with HECO that there is less opposition to the 46 kV alternative and suggests, rather, that there is no community preference for the 46 kV alternatives and that the community sees no need for the project.²⁵

7. Public Welfare

The Consumer Advocate represents that the EOTP as proposed, in contrast to the other 138 kV and 46 kV alternatives provides a positive benefit to the public welfare. This is due to a determination that the EOTP will improve HECO's ability to provide reliable electric service to east Oahu customers in a more economical and aesthetic manner.²⁶ This conclusion is based upon planning considerations that avoids use of Conservation District land and anticipates concerns and problems in the future in addition to current status quo. Although Life of Land raised concerns about the public's perspective on HECO's current reliability status, being adequate and not needing the EOTP, the Consumer Advocate's review sought to determine reliability based upon general industry accepted standards and the analysis of 263 cases reflecting conditions on HECO's transmission system. The Consumer Advocate did not rely solely on consumer opinion.²⁷

F. EOTP Is Favorable To Other Non-Transmission Options

²⁴ Hearing Transcript, Volume I, Direct Examination of Michael Silva, page 187-188. See also Hearing Transcript, Volume I, Cross-Examination of Dr. Linda Erdreich by Henry Curtis, page 202, lines 2-19.

²⁵ CA-T-1, page 110-111, Testimony of Michael E. Kiser, referencing HECO T-12, Testimony of HECO's witness Robert A. Alm.

²⁶ CA-T-1, page 112, lines 10-15, Testimony of Michael E. Kiser

²⁷ Hearing Transcript, Volume II, page 290, lines 7-12.

The Consumer Advocate favors the EOTP to other “non-transmission” alternatives, which include but are not limited to demand-side management, generation (including renewable resource generation) or supply-side management, “live line” maintenance and line re-rating/tensioning alternatives.²⁸

Although demand-side and supply-side programs may potentially resolve system overload concerns, the programs are unable to eliminate the identified reliability constraints for Pukele Substation in a timely manner.²⁹ The crux of the Consumer Advocate’s determination is that programs such as Combined Heat and Power (CHP) / Distributed Generation (DG) are in the early stages of planning and implementation in Hawaii. Furthermore, the technology is new and developing, costs are uncertain and relatively high, and implementation schedules are not set in place.³⁰ The Consumer Advocate, however, recommends that these non-transmission options continue to be to address future supply needs in the IRP process.

G. All-Underground Alternative Is Reasonable

The EOTP Phase 1 and Phase 2 improvements have been proposed as an all-underground alignment. This proposal is primarily due to factors including the availability of existing underground duct lines, applicable State and City laws and regulations, delays and additional costs to pursue an overhead installation due to construction constraints and community/aesthetic related concerns, and longer routing of circuits.³¹

²⁸ CA-T-1, page 114, lines 4-15, Testimony of Michael E. Kiser

²⁹ CA-T-1, page 116, lines 14-21

³⁰ CA-T-1, page 116-117, Testimony of Michael E. Kiser

³¹ CA-T-1, page 119-118, Testimony of Michael E. Kiser, reference to HECO T-7, Testimony of Ken T. Morikami

Hawaii Revised Statutes, section 269-27.6, mandates that the Commission determine whether a new 46 kV electric transmission system should be built above or below ground.³²

In its Direct Testimony, the Consumer Advocate recommended that the two segments in Phase 1, Pumehana Street to Date Street and Winam Avenue to Mooheu Avenue segments, be installed overhead versus underground to potentially save ratepayers \$408,000.³³ This was based upon a visual observation that there are existing overhead lines in the area.

During the evidentiary hearing, HECO witness, Ken Morikami testified that the total cost differential for installation underground for the aforementioned two segments is an increase of \$577,000. HECO, however, is concerned that there is potential for increased public intervention in the permitting and approval process should HECO pursue the overhead installation of those segments and potentially resulting in project significant delays and thereby directly impacting projected reliability concerns, and

³² HRS section 269-27.6 states that:

Construction of high-voltage electric transmission lines; overhead or underground construction.

(a) Notwithstanding any law to the contrary, whenever a public utility applies to the public utilities commission for approval to place, construct, erect, or otherwise build a new forty-six kilovolt or greater high-voltage electric transmission system, either above or below the surface of the ground, the public utilities commission shall determine whether the electric transmission system shall be placed, constructed, erected, or built above or below the surface of the ground; provided that in its determination, the public utilities commission shall consider:

(1) Whether a benefit exists that outweighs the costs of placing the electric transmission system underground;

(2) Whether there is a governmental public policy requiring the electric transmission system to be placed, constructed, erected, or built underground, and the governmental agency establishing the policy commits funds for the additional costs of undergrounding;

(3) Whether any governmental agency or other parties are willing to pay for the additional costs of undergrounding;

(4) The recommendation of the division of consumer advocacy of the department of commerce and consumer affairs, which shall be based on an evaluation of the factors set forth under this subsection; and

(5) Any other relevant factors.

³³ CA-T-1, page 123, lines 5-12, Testimony of Michael E. Kiser

increasing overall project costs.³⁴ The Consumer Advocate, upon acknowledging the potential project delays and minimal electromagnetic field impacts, amended its position to support HECO's proposal to pursue an all-underground installation.³⁵

Based upon the aforementioned reasons, the Consumer Advocate is convinced that there are benefits that exist currently to outweigh the costs of placing the transmission system underground.

III. Conclusion

For reasons provided through its Direct Testimony, witness testimony, and corresponding exhibits, the Consumer Advocate concludes that HECO has demonstrated the following: that the EOTP project is needed as proposed in its recent application and will provide facilities reasonable required to meet HECO's future requirements for utility purposes, with the exception of the additional Archer Substation 138/46 kV transformer; that HECO's selected routing, location, configuration and method of construction for Phase 1 and 2 of the EOTP project are reasonable; that HECO's EOTP project is preferable to HECO's other 138kV and 46kV transmission

³⁴ Hearing Transcript, Volume I, page 169-170, Direct Examination of HECO witness Ken Morikami

³⁵ Hearing Transcript, Volume II, page 270, lines 2-19, Cross-Examination of CA witness Michael E. Kiser.

alternatives, that the EOTP is preferable to other feasible non-transmission options; and that all of the 46kV lines should be placed, constructed, erected or built below the ground.

DATED: Honolulu, Hawaii, February 13, 2006.

Respectfully submitted,

By



JON S. ITOMURA

Attorney for the
Division of Consumer Advocacy
Department of Commerce and
Consumer Affairs

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing **DIVISION OF CONSUMER ADVOCACY'S OPENING BRIEF AND CERTIFICATE OF SERVICE** was duly served upon the following parties, by personal service, hand delivery, and/or U.S. mail, postage prepaid, and properly addressed pursuant to HAR § 6-61-21(d).

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